

IN THE CLAIMS:

Claim 1 (currently amended): An apparatus for coating a substrate, the apparatus comprising:

a coating source for processing the substrate at a coating location in a path on which the substrate cyclically moves in a direction of movement repeatedly past the coating location;

a sensor arrangement that generates a sensor signal at an output that is related to an actual status of the coating process, the sensor arrangement comprising ~~one of~~: at least two sensors spaced from each other along a direction perpendicular to ~~[[a]]~~ the direction of movement of the substrate and at a sensing location that is spaced from the coating location in the direction of movement for substantially simultaneously measuring the thickness of a coating on the substrate at different positions that are substantially perpendicular to the movement direction of the substrate and that are spaced from the coating location to form the sensor signal ; ~~and at least one sensor for sequentially measuring the thickness of the coating at two different locations in the movement direction of the substrate for generating the sensor signal ; and~~

means for generating a control signal related to the sensor signal for modifying at least one operating parameter of the coating source during the processing of the substrate, wherein the sensor signal does not reflect the at least one operating parameter.

Claim 2 (currently amended): A method for processing a substrate, the method comprising:

processing the substrate in a treatment area of a treatment source substantially

according to a predetermined scheme comprising a set of parameters, the treatment area being location in a path on which the substrate cyclically moves in a movement direction repeatedly past the treatment area;

selecting a subset of said set with at least one parameter as a control parameter(s) and at least one further parameter not comprised in said subset as an operating parameter(s), said control parameter(s) comprising measurements taken at two different locations on the substrate which are spaced from each other in a direction perpendicular to the movement direction of the substrate, the measurements being thickness measurements;

determining a deviation of the subset from the predetermined scheme;

generating a control signal in response to the determined deviation; and

modifying the at least one operating parameter(s) in response to the control signal to compensate for an effect of the deviation from the predetermined scheme.

Claims 3-5 (canceled).